

Increasing the LD Middle School Students'  
Writing Ability Through  
Research-Based Writing Strategies

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A Special Project  
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Dr. Jacqueline Mault  
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FACULTY APPROVAL

Increasing the LD Middle School Students'  
Writing Ability Through  
Research-Based Writing Strategies

Approved for the Faculty

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## ABSTRACT

This study sought to determine whether research-based best practices influence learning for the Learning Disabled (LD) student. Learning disabled students have struggled with the cognitive demands of complex processes such as the writing process. Effective teaching practices and strategies for teaching writing to LD students were identified. The focus of this research study was to determine if there was a positive increase in the LD middle school students' writing ability due to specific strategies taught. After a review of selected literature was conducted, research-based strategies were selected to implement. Once pretest data was obtained, the identified strategies were implemented. After a six week period, posttest data was obtained and analyzed. Results indicated no significant increase. Recommendations were formulated based on the outcome of the study.

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## Chapter 1

### Introduction

#### Background for the Project

Communication is necessary for academic success. Writing is a form of communication where the skills become catalysts for gaining and sharing knowledge. The cognitive and physical processes involved in writing are complex. They present challenges for most students in one form or another. It is essential students overcome these challenges in order to communicate effectively.

Students with learning disabilities (LD) are prevalent in special education programs across the country. These students make up the largest eligibility category and are frequently integrated into general education classes. Both the general education teachers and the special education teachers need to be able to have research-based instructional strategies to implement in order to effectively meet the needs of all learners in the classroom.

The LD students' learning difficulties can vary within the process of writing. Effective teaching practices and strategies for teaching LD students have been identified as well as effective teaching strategies for teaching the writing process. There are best practices in both areas that influence learning for the LD student.

### Statement of the Problem

Without implementing strategies proven to support LD students, it was difficult for general education and special education teachers to collaborate concerning the students' writing process abilities and needed accommodations and adaptations to make general education curriculum accessible to the fullest extent possible for students.

The problem which represented the focus of the study was determining if there was a positive increase in the LD middle school students' writing ability due to specific strategies that are taught during the writing workshop.

### Purpose of the Project

The purpose of this research was to determine whether a substantial positive increase will occur in LD middle school students' writing ability due to specific strategies implemented. To accomplish this purpose, a review of selected literature was conducted; research-based strategies were selected to implement; pretest data was obtained and analyzed; identified strategies were implemented; posttest data was obtained and analyzed; and related conclusions and recommendations were formulated.

### Delimitations

The study took place during the 2011-2012 school year in a small rural community in the Yakima Valley within a middle school serving sixth through

eighth grades, with approximately 715 students enrolled. The participants were students enrolled in the sixth grade Reading/Writing Block periods. The strategies implemented were current, research-based methods cited in the review of selected literature. These strategies were implemented during the research-based writing workshop model within the classroom.

### Assumptions

For purposes of this study, certain assumptions were believed to be true. First, both the control and the experimental groups who participated were cognitively equivalent with similar motivational behaviors. Second, all Language Art teachers followed the same protocol in administering instruction, followed the same pacing guide for instruction, and followed the writing process steps within the writer's workshop model. Consistent measurement strategies were used in collecting and scoring students' writing.

### Hypothesis

A positive increase will occur in LD middle school students' writing ability when given specific strategies implemented during the writing workshop, where students engage in the writing process.

### Null Hypothesis

No positive increase will occur in LD middle school students' writing ability when given specific strategies implemented during the writing workshop,

where students engage in the writing process.

### Significance of the Project

The study was designed to determine whether specific strategies were useful in developing LD students' writing skills. There are important implications for instruction. If results showed an improvement in writing skills, these strategies could be used to help all struggling writers gain the needed skills to achieve success within the writing process. Special education teachers would be able to effectively help LD students access the general education curriculum. They could also share these strategies with general education teachers. General education teachers, in turn, would be able to implement these strategies to facilitate the writing of all struggling writers in their classes. As a result, students would be better able to communicate their understanding of content and experience academic success.

### Procedure

Procedures were followed in the conduct of the present study. From the literature reviewed, effective research-based strategies to implement with LD students were identified. A control group and an experimental group were identified through random sampling of students. Baseline data was collected by administering a writing prompt to both groups and scored using a rubric (Appendix A). Both groups engaged in the writing workshop for the next four

weeks. The experimental group received the strategies chosen for teaching LD students specific writing skills. See Appendix B for a list and description of these strategies. Posttest data was collected by administering a writing prompt to both groups and scored using the same rubric used in pretest scoring. Data was analyzed and compared.

### Definition of Terms

cognitive training. A group of training procedures designed to change thoughts or thought patterns.

content enhancement. A way of modifying curriculum materials to make them more salient or prominent.

graphic organizers. A way of enhancing content through visual displays to organize information.

learning disabilities. A general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and the use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span. Problems in self-regulatory behaviors, social perception and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability (NJCLD, 1989)

mnemonics. A system to develop or improve the memory. It involves the use of picture or word cues to help remember information.

scaffolded instruction. A cognitive approach to instruction in which the teacher provides temporary structure or support while students are learning a task; the support is gradually removed as the students are able to perform the task independently.

self-instruction. A type of cognitive training technique that requires individuals to talk out loud and then to themselves as they solve problems.

self-monitoring. A type of cognitive training technique that requires individuals to keep track of their own behavior.

strategy. A set of operations or actions that a person consciously undertakes to accomplish a desired goal.

writing process. Stages a writer moves through to develop a writing piece. It includes generating ideas, prewriting, drafting, revising, editing, and publishing.

writing workshop model. Writing instruction taught within the structure of mini-lessons and independent writing using the writing process.

### Acronyms

AYP. Annual Yearly Progress

IDEA. Individuals with Disabilities Education Act

HI. Health Impaired

IEP. Individualized Education Program

LD. Learning Disabled

OSPI. Office of the Superintendent of Public Instruction

TBI. Traumatic Brain Injured



## CHAPTER 2

### Review of Selected Literature

#### Introduction

The Office of Superintendent of Public Instruction (OSPI) defined writing as an act of discovery, of communication, of joy. It connects us to work, to culture, to society, to existing knowledge, and to the meaning of our lives. From the time children learned to form letters, they were conveying a message through the process of writing. Through the school years, the focus in literacy shifts from learning how to read and write to reading and writing to learn. These literacy skills have become prerequisites for student achievement (Reynolds & Perin, 2009).

For some learners writing comes easily and for others, it is a daunting task. Reading and writing difficulties have been prevalent among the nation's middle and high school students (Grigg, Donahue, & Dion, 2007). To students with learning disabilities, this act of discovery, of communication, of joy is affected by a disability that has a direct impact on the writing process. Through research, the specific needs of LD students have been addressed in order to identify effective strategies that can support them through the writing process. It has been concluded that educators who implement research-based strategies can improve LD students writing through time (Vaughn & Bos, 2009).

## Writing Process

There is a physical and mental process that demands effort when writing. It consists of a physical process of putting fingers on keys or pencil to paper and a mental process of idea creation and the wording of those ideas to effectively convey thoughts (Saddler & Asaro-Saddler, 2010). It's no wonder writing has always been such a challenging task. Not only for the writers themselves, but for the educators who guide students through the challenging process. It has been emphasized that "even when good instruction supports writing, there is little question that writing is one of the most difficult tasks that students must perform in school" (Bereiter & Isaacson as cited in Vaughn & Bos, 2009, p. 361).

Graham and Harris (2009) concluded that knowledge about how to write is an important ingredient in writing development. Writing knowledge includes knowledge about the writing topic, the intended audience, and how to write. Sentence creation is a foundational part of the writing process according to Saddler and Asaro-Saddler (2010). Vaughn and Bos (2009) reported that once effective sentence writing has been acquired then the sentences can be organized into meaningful paragraphs. Schumaker and Deshler (2009) told of one of the first effective paragraph organization strategies designed. This three step strategy involved writing a topic sentence, three detail sentences, and a conclusion sentence.

Experts consider writing as a means of conveying a message to be the most important element in writing (Murray as cited in Vaughn & Bos, 2009). In order to convey the message intended, authors engage in a writing process which has “revealed that students across achievement groups benefit from participating in” (Vaughn & Bos, 2009, p 366). This process involves stages that are moved in and out at various points along the way. One of the stages is prewriting where information is collected about a topic through observing, remembering, interviewing and/or reading. Another stage consists of composing or drafting where students put ideas on paper. This stage helps the writer to identify what they know and do not know. During the revising stage, ideas are explored, elaborated on, and connections are made. Once the content is found to be complete, the editing takes place. This is when punctuation, spelling, and other mechanical processes are checked and fixed before the final stage of publishing happens. Publishing does not happen for all writing pieces, but when it does, often the final project is shared with an audience (Vaughn & Bos, 2009).

The writing process does not happen naturally. It is a process that must be taught. This is most commonly done through a writer’s workshop model where mini-lessons teach necessary skills and strategies followed by a period of about 30 minutes where students engage in prewriting, drafting, peer conferencing, revising, editing, and publishing. The teacher facilitates and monitors the

classroom activity and conferences individually with students (James, Abbott & Greenwood, 2001). Santangelo, Harris and Graham (2007) listed attributes that skilled writers possess that aid them in the writing process (see Appendix C).

Writing has become evermore important for students since the No Child Left Behind Act of 2001 that requires annual testing for all students. These tests are making sure all students, including the subgroup of students with Individual Education Plans (IEPs), meet annual yearly progress (AYP), which shows gains for students and holds districts accountable for student learning. The reauthorization of the Individuals with Disabilities Education Act (IDEA) in 2004 stressed the fact that students with disabilities must not only be placed in the general education classes when appropriate, but they must have true access to participation in the curriculum. IDEA also requires that students with disabilities be included in district and statewide assessments and in accountability programs (Schumaker & Deshler, 2009).

### Learning Disabilities

“Academic deficits are the hallmark of learning disabilities. If there is no academic problem, a learning disability does not exist” (Hallahan, Kauffman & Pullen, 2009, p. 195). Vaughn and Bos (2009) report the frequency of students with LD as “fifteen to 25 percent of all students have some type of learning or behavior problem and students with learning disabilities are five times more

prevalent than those with behavior disorders” (p. 2). Researchers have helped create an image of what those numbers actually looked like in schools. Hallahan et al. (2009) reported “Boys outnumber girls by about three to one in the learning disabilities category” (p. 192). Vaughn and Bos (2009) add to the description by stating most LD students “spend at least some of their school day in general education classrooms with their nondisabled peers” (p. 5).

LD students have struggled with the cognitive demands of complex processes such as the writing process. There have been many ways difficulties have been shown to emerge throughout the writing process. “Students with disabilities differ from other students in the degree to which elements of the writing process are difficult for them” (Englert & Raphael, Graham, Thomas, Englert, & Gregg as cited in Vaughn & Bos, 2009 p. 368). Generally, what has been produced by students with LD have been incomplete simple sentences, a lack of variety in sentences, lack of strategies for organizing writing or connecting paragraphs in essay writing. In addition, they often could not find or correct errors within their own writing (Schumaker & Deshler, 2009). Englert and Raphael et al., Thomas, Englert et al., and Troia (as cited in Schumaker & Deshler, 2009) summarized the LD students’ difficulties by stating, “overall quality of their writing is poor” (p. 81).

Specific problems have been identified that students with LD frequently

possess. First, the knowledge of writing strategies has been found to be difficult for LD students. These difficulties are in acquiring, utilizing, and managing writing strategies (Hallahan et al, 2009; Helsel & Greenberg, 2007; Santangelo et al, 2007; Vaughn & Bos, 2009). Another missing trait in the writing of LD students has been a lack of text organization skills. Skills such as classifying, labeling ideas, and identifying main ideas are lacking as a result from a lack of planning the organization of the writing piece (Englert, 2009; Hallahan et al, 2009; James et al, 2001; Santangelo et al, 2007; Vaughn & Bos, 2009). Another difficulty was found in generating content. Santangelo et al. (2007) described this problem as “knowledge telling” (p. 3) where students wrote down all information that was perceived to be topic related. One idea led to the next and the writing ended up containing a list of ideas rather than a well-organized, comprehensive piece of writing.

Revising has been one of the most difficult stages in the writing process for all writers and especially so for LD students. Once the students have gone through the process of prewriting and drafting, the last thing they want to put effort into is revising their work. The thought of making changes and spending more time on a piece that students were ready to be done with was deemed unnecessary unless they had been explicitly taught the “procedures such as diagnosing, comparing, and operating to assist them during the revision process”

(De La Paz, Swanson, & Graham as cited in Vaughn & Bos, 2009, p. 375).

Another reason revising has been so difficult was that students with LD often had one or more problems with handwriting, spelling or composition (Hallahan et al., 2009, p. 197). These problem areas provided frustration for the student author as well as the audience. It is no wonder the LD students' conceptions about how to write placed undue emphasis on form and mechanics rather than content and the writing process (Graham & Harris, 2009; Santangelo et al., 2007).

Motivation is an issue with LD students and writing. Graham and Harris as cited by Santangelo et al. (2007) reported "students who struggle with writing, especially those with learning disabilities, put minimal time and effort into the writing process" (p. 5). Graham and Harris reported students "displayed a low motivation including self-doubts, negative attitudes, maladaptive attributions, minimal effort, and low self-efficacy" (p. 59) in writing (2009). There were many issues LD students had to deal with and each of those issues needed to be considered when constructing effective practices to implement.

"Students with academic challenges have exhibited greater difficulty coping with abstract writing concepts, and successfully learning concepts that teachers do not teach explicitly" (Berninger et al. as cited in James et al., 2001, p. 36). This finding formed a basis of discovering ways of teaching writing in a concrete manner and ways to explicitly teach the writing process to LD students.

### Effective instructional practices for LD students

Meltzer, as cited by Schumaker and Deshler (2009), stated the deficits of adolescents with learning disabilities “generally persist unless these students receive intensive and special instruction” (p. 81). Vaughn and Bos (2009) went even further to say “these students need the very best instruction using research-supported techniques to ensure that time is not wasted and teachers are providing opportunities for students to gain the necessary abilities and obtain the motivating experience of success” (p. 4). In 2003, as cited by Hallahan et al. (2009), The Council for Exceptional Children reported: teachers of students with LD should be able to:

1. Use methods for teaching individuals to independently use cognitive processing to solve problems.
2. Use methods for guiding individuals in identifying and organizing critical content.
3. Use methods for ensuring individual academic success in one-to-one, small group, and large group settings.
4. Use instructional methods to strengthen and compensate for deficits in perception, comprehension, memory, and retrieval.
5. Identify and teach essential concepts, vocabulary, and content across the general curriculum (p. 210).



These guidelines are congruent with the features of instruction that Heward, as cited in Vaughn and Bos (2009), defined as effective instruction for students with LD. The features of instruction included: individually planned, specialized, intensive, goal directed, implementation of research based methods, and instruction guided by student performance. When these features of instruction were applied with teaching the writing process, educators recognized the need for academic tasks to be broken down into smaller, obtainable skills in order to see student progress. Specifically, teaching prewriting skills became important so drafting and revising became easier. Vaughn and Bos (2009) stated “teaching students to think about what they are going to say before they write is generally a helpful technique” (p. 372).

#### Techniques and strategies to implement with LD students

Elements that contributed to the power and benefit of utilizing strategies within the context of writing were explained by Santangelo et al. (2007). Those elements are described as a “conscious decision about a plan of action which involved procedural knowledge required to implement the plan along with willingness, effort, and persistence to achieve the desired goal” (p. 2). Based on this explanation, writing strategies should help simplify and organize all steps throughout the writing process. They should design an action plan for completing the assignment. They should make the operations that happen during each phase

visible and concrete. Strategies should build a student's knowledge about writing, the process it involves, and their capabilities as writers (Santangelo et al., 2007).

A literature review showed instructional approaches for teaching LD students are varied. They are rarely isolated in practice though. When used in combinations to meet the individual needs of the students they were found to be the most beneficial (Hallahan et al., 2009). One approach identified was cognitive training. Scaffolding instruction was a specific technique that fell under this category. It was found to be effective for modeling a strategy within the writing process (Hallahan et al., 2009). Another approach identified was content enhancement. Although there are many forms of content enhancement the two found most noteworthy when used with the writing process were graphic organizers and mnemonics (Hallahan et al., 2009). One of the benefits of implementing graphic organizers was reported by James et al. (2001): "using graphic organizers, the teacher was able to provide explicit instruction in the often-abstract writing concepts of a writer's workshop" (p.33). Mnemonics was identified as a memory technique to help students remember steps in particular writing strategies. Another instructional approach for teaching the writing process was peer tutoring. Peer collaboration was the technique within the approach of peer tutoring found to be of value when implemented within the writing process. Englert (2009) stated: "peer collaboration deepened learning in a manner that

exceeded what was possible through teacher-led and independent learning arrangements alone” (p. 109).

#### The LD student as an inactive learner

Graham and Harris (2009) made three conclusive statements from their research regarding the motivation of struggling writers. First, “without intervention, the students demonstrated limited persistence when writing” (p. 62). Next, “many of the students were more confident about their writing capabilities than was warranted” (p. 63). Last, “struggling students were typically more negative about writing than their classmates” (p. 63). “Research describes the students with learning disabilities as someone who doesn’t believe in his or her own abilities, has an inadequate grasp of what strategies are available for problem solving, and has problems producing appropriate learning strategies spontaneously” (Hallahan et al., 2009, p. 202). Because of these descriptions Lin, Monroe and Troia’s (2007) findings which investigated the metacognition of writers across grade levels were helpful. They found a pattern in the thinking processes of students acquiring writing skills which developed slowly from the “self-centered, local focus toward a more global, audience-oriented, self-aware, and self-regulated focus” (p. 226). The cause of the metacognition levels was stated to be in the “differences in maturity . . . or a result of the negative effects of a learning problem” (p. 226). In order to address the problem of slowly

developing metacognition, it needed to be understood. Butler as cited in Hallahan et al. (2009) reported three components of metacognition. The ability to recognize task requirements, select and implement appropriate strategies, and monitor and adjust performance. Hallahan et al., (2009) went on to conclude that even though students with LD were unlikely to use strategies on their own, once they were taught specific strategies, their academic performance was enhanced.

The instructional approach found to be beneficial with problems of metacognition as it related to motivation was cognitive training. The techniques of self-instruction and self-monitoring were both motivational in practice (Hallahan et al., 2009). A strategy that combined both of these techniques was the self-regulatory strategy. A self-regulatory strategy, when combined with a writing program could help increase self-efficacy by teaching students strategies to develop and put in motion a plan of action for accomplishing a writing task (Helsel & Greenberg, 2007).

### Summary

The review of research and selected literature supported five themes. First, the writing process is essential to academic success for all students. Second, students with LD experience difficulties with cognitive and physical demands of the writing process. Third, effective instructional practices have been identified to support LD students. Fourth, research-based techniques and strategies to

implement and aid LD students in their writing are available. Last, LD students have been found to be inactive learners which require extra support and specific self-regulatory strategy instruction to gain motivation.

## CHAPTER 3

### Methodology and Treatment of Data

#### Introduction

The study involved a review of literature where effective research-based strategies were identified to implement with LD students. Through random sampling, a control group and an experimental group were selected. A writing prompt was given to both groups and scored by two teachers using 4-point scoring guide (Appendix A). This was the pretest data collected. Both the experimental group and the control group engaged in the writing workshop for the next four weeks. The focus was on expository writing both in paragraph and essay forms, depending on the student's abilities. The experimental group received the strategies chosen for teaching LD students specific writing skills. See Appendix B for a list and description of these strategies. Posttest data was collected by administering a writing prompt to both groups and scoring using the same rubrics used in baseline scoring. The data was then analyzed to determine whether the experimental group who received writing strategies showed an increase in scores compared to the control group who did not receive any extra supports within the writing process.

#### Methodology

In this study the experimental design research method was used to

determine the relationship between applying specific learning strategies to the LD students' daily writing lessons and their ability to communicate effectively in their own writing.

### Participants

The participants in this study were 17 sixth grade special education students ranging in age from 11 to 12 years. The control group was made up of six LD students, one Health Impaired (HI) student and one Traumatic Brain Injured (TBI) student. The HI and TBI students had an identified deficit in the area of writing. Three were female and five were male students. All students in the control group were special education students placed in general education classes for their reading/writing block where they received their writing instruction. In the experimental group there were six LD students and three HI students with identified deficits in the area of writing. Two were female and seven were male. The students in the experimental group were placed in the resource room for their reading/writing block where they received their writing instruction.

### Instruments

The pretest and posttest was a performance assessment given in a classroom-based assessment design. The students were given a prompt to write about. Prompts were taken from past Washington State Measure of Student Progress tests developed by Washington State OSPI so as not to be biased.

Students had up to 45 minutes to complete the task of writing a response to the prompt. Criterion referenced scoring was set up by scoring each individual's writing using the 4-point scoring guide (Appendix A) from the Washington State OSPI writing section in order to align with standards. The scoring guide was modified to break it down into three separate areas of content, organization, and transitions. By doing this each area could be scored separately. Data analysis utilized STATPAK computer software included in, *Educational Research, Competencies for Analysis and Applications*, (Gay, Mills & Airasian, 2009).

### Design

The method of experimental research was used, comparing the results of pretest and posttest data. The pretest measured a baseline of writing knowledge for all students in the control and experimental groups. The posttest measured the ceiling of knowledge after the same time span had passed for both groups, with the experimental group having received writing instruction using specific teaching strategies. The tests were administered six weeks apart during the late fall of 2011. The scores for each group were compared using the *t* test. Test results would indicate whether a significant difference between the groups existed because of the independent variable of implementing specific teaching strategies.

### Procedure

The study involved a review of literature where effective research-based



strategies were identified to implement with LD students. Through random sampling of special education students, a control group and an experimental group were selected. The pretest was given in the resource classroom during a time when all special education students were present. The students were informed they would be using their knowledge of writing to communicate their ideas. Students were told to do their best writing. After given a prompt for writing, students had 45 minutes to complete the task. The writing was scored by two resource room teachers using the 4-point scoring guide found in Appendix A. This was the baseline data collected.

Both the experimental group and the control group engaged in the writing workshop within their language art block class for the next six weeks. Writing was done both in paragraph and essay forms depending on the student's abilities. Over the next six weeks both groups of students received core curriculum instruction during their writing class. The experimental group received additional instruction in the strategies chosen for teaching LD students specific writing skills. See Appendix B for a list and description of these strategies.

Posttest data was collected by administering a post writing assessment following the same procedures used in the pretest and scoring using the same scoring guides used in pretest scoring. The data was then analyzed to determine whether the experimental group which received instruction on specific writing

strategies showed an increase in scores compared to the control group who did not receive any extra support within the writing instruction.

#### Treatment of the Data

The data was analyzed with the STATPAK statistical software that accompanied *Educational Research Competencies for Analysis and Applications* (Gay, Mills, & Airasian, 2009) using an independent *t* test to determine the difference, if any, of participating 6<sup>th</sup> grade LD students who were taught specific strategies for writing compared to the control group of 6<sup>th</sup> grade LD students not given specific strategies for writing. Significance was determined for  $p \geq$  at .05 level.

#### Summary

Chapter 3 provided a description of the research methodology employed in the study, participants, instruments used, research design, and the procedure utilized. Details concerning treatment of the data obtained and analyzed were also presented.

## Chapter 4

### Analysis of the Data

#### Introduction

This study sought to determine if there was a positive increase in the LD middle school students' writing ability due to specific strategies that were taught during the writing instruction. Accordingly, Chapter 4 has been organized to address: description of the environment, hypothesis, null hypothesis, results of the study, discussion, and a summary.

#### Description of the Environment

This study took place at a middle school serving approximately 715 sixth through eighth grade students located in a rural community in the Yakima Valley. The participants included sixth grade special education students enrolled in Reading/Writing Block periods in the fall of 2011. Current, research-based writing methods cited in the review of selected literature were implemented during classroom writing instruction time.

#### Hypothesis

A positive increase will occur in LD middle school students' writing ability when given specific strategies implemented during the writing workshop, where students engage in the writing process.

### Null Hypothesis

No positive increase will occur in LD middle school students' writing ability when given specific strategies implemented during the writing workshop, where students engage in the writing process.

### Results of the Study

As displayed in Table 1, 17 sixth grade special education students took a writing pretest which measured their baseline in content, organizational, and transitional writing skills. The table reflects the scoring guide pretest scores for each student in the control and experimental groups. The strengths for both control and experimental groups are in the area of content. Both groups have similar scores in all areas measured.

Table 1

Sixth Grade Pretest Writing Scores

	Content Score	Organization Score	Transition Score	Total Score
Control Group				
Student CA	1	1	1	3
Student CB	1	1	1	3
Student CC	2	2	1	5
Student CD	2.5	2	1	6.5
Student CE	2	2	1	5
Student CF	1	1	1.5	3.5
Student CG	2	1.5	2	6
Student CH	2.5	2	2	6.5
Mean	1.75	1.56	1.31	4.81
Experimental Group				
Student EA	2	2	1	5
Student EB	1.5	1	1	3.5
Student EC	1.5	1	1	3.5
Student ED	1.5	1	1	3.5
Student EE	2	2	2	6
Student EF	1.5	1	1	3.5
Student EG	1.5	1	1	3.5
Student EH	1.5	1	1	3.5
Student EI	1.5	1	1	3.5
Mean	1.61	1.22	1.11	3.94

As displayed in Table 2, 17 sixth grade special education students took a writing posttest which measured their final scores in content, organizational, and transitional writing skills based on the scoring guides. The table reflects strengths in the areas of content and organization for both the control and the experimental groups. Overall, both groups are similar in posttest data.

Table 2

Sixth Grade Posttest Writing Scores

	Content Score	Organization Score	Transition Score	Total Score
Control Group				
Student CA	2	2	1.5	5.5
Student CB	1	1	1	3
Student CC	1.5	1	1	3.5
Student CD	2	2	1.5	5.5
Student CE	2.5	2	1	5.5
Student CF	1.5	2	1	4.5
Student CG	2	2	1	5
Student CH	2	3	2	7
Mean	1.81	1.88	1.25	4.94
Experimental Group				
Student EA	2	2	2	6
Student EB	2	1.5	2	5.5
Student EC	2	1	1.5	4.5
Student ED	2	2	1	5
Student EE	2	2	2	6
Student EF	2	2	2	6
Student EG	2	2	1	5
Student EH	2	2	1	5
Student EI	2	2	2.5	6.5
Mean	2.00	1.83	1.66	5.50

Table 3 has provided a summary of the raw scores of student posttest scores. The following information is reflected from the raw scores displayed in the table:

- The mean of the experimental group was 0.19 point above the control group in the area of content.
- The mean of the experimental group was .05 point below the control group in the area of organization.
- The mean of the experimental group was .42 point above the control group in the area of transition.

Table 3 also provides a summary of the *t* test results. The *t* test results reflect the following findings:

- The *t*-value needed to be 2.131 to be significant at the .05 level.
- The hypothesis was rejected at the .05 level.
- The null hypothesis was supported at the .05 levels.

The findings of the study are inconclusive of a correlation between writing abilities and teaching specific writing strategies to LD students.

Table 3

*t* Test for Independent Samples

Statistics	Posttest content	Posttest organization	Posttest transition	Posttest total
No. of scores in group X	8	8	8	8
Sum of scores in group X	14.5	15	10	39.5
Mean of Group X	1.81	1.88	1.25	4.94
No. of scores in group Y	9	9	9	9
Sum of scores in group Y	18	16.5	15	49.5
Mean of Group Y	2	1.83	1.67	5.5
t-value	-1.23	.17	-1.78	-1.17
Degrees of Freedom	15	15	15	15

X= control group      Y= experimental group

### Discussion

The findings from the current study support the research on the struggles LD students experience with writing. Generally the writing that has been produced from LD students has been incomplete simple sentences, a lack of variety in sentences, and a lack of strategies for organizing writing or connecting paragraphs in essay writing (Schumaker & Deshler, 2009). The current research confirms the LD students' struggle with the writing process. The inconclusive findings may be explained by previous research which found that educators who implement research-based strategies can improve LD students writing over time



(Vaughn & Bos, 2009). The current study of six weeks of implementing writing strategies to the experimental group may not have been enough time to see a significant increase.

### Summary

An analysis of data presented in Chapter 4 supported the null hypothesis at the .05 level. Findings indicated there was not a substantial positive increase in LD middle school students' writing ability due to specific strategies implemented.

## Chapter 5

### Summary, Conclusions and Recommendations

#### Introduction

The purpose of this research was to determine whether a substantial positive increase would occur in LD middle school students' writing ability due to specific strategies implemented. To accomplish this purpose, a review of selected literature was conducted, research-based strategies were selected to implement, pretest data was obtained and analyzed, identified strategies were implemented, posttest data was obtained and analyzed, and related conclusions and recommendations were formulated.

#### Summary

Writing is a form of communication used to gain and share knowledge. It is a skill that LD students struggle with. The study set out to determine if specific strategies taught to LD middle school students would show a positive increase in their writing ability. The review of research in Chapter 2 found students needed to be able to use the writing process in order to experience academic success. It was determined that writing produced physical and cognitive challenges for LD students. Research-based instructional practices and writing techniques and strategies have been identified to support students. Through an experimental design, a research-based writing strategy was implemented to a select group of

LD students in order to determine if a significant improvement was found in the writing ability of the experimental group compared to the control group. The results showed no significance, yet there exist implications for further studies.

### Conclusions

Based on a review of selected literature and major findings from the present study, conclusions were reached. Both pretest and posttest data show that both groups of participants struggled with the identified skills successful writers possess, as supported in the review of literature. Another point stated in the review of literature was that an effective writing strategy should help simplify and organize all the steps throughout the writing process. In this experiment, the strategy became the action plan for completing the assignment. The strategy made each phase of the writing process concrete. Through the implementation of graphic organizers, students were able to take the abstract concepts of writing and visually organize their ideas and generate content by elaborating on main ideas. This technique, in supporting the LD students' writing, deterred the content generating problem of "knowledge telling" (Santangelo et al., 2007. p.3), otherwise known as list writing. The posttest scores do not indicate a significant difference between the experimental group and the control group, but the data does indicate progress with the experimental group when the pretest data is taken into consideration.

## Recommendations

Based on the previous conclusions, there are recommendations to be made. Vaughn and Bos concluded that educators who implement research-based strategies can improve LD students writing through time (2009). Therefore it is recommended that this experiment be extended to incorporate more time. Within this extended time frame, each student's individual needs should be taken into consideration in order to decide which strategies should be implemented in order to meet the needs of the individual student.

Teaching the writing process requires effort and motivation from both teacher and student. Therefore, another recommendation is to take into consideration the motivational needs of the LD students. An action plan needs to be incorporated into the writing process to keep the LD student motivated. The toolbox of the writing teacher needs to include research based strategies that both motivate and support the individual writer in every step of the writing process.

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Appendix A

4-Point Scoring Guides

*Content Scoring Guide*

<b>Points</b>	<b>Description</b>
4	<ul style="list-style-type: none"><li>• Maintains consistent focus on topic and has selected relevant details</li></ul>
3	<ul style="list-style-type: none"><li>• Maintains adequate focus on the topic and has adequate supporting details</li></ul>
2	<ul style="list-style-type: none"><li>• Demonstrates an inconsistent focus and includes some supporting details, but may include extraneous or loosely related material</li></ul>
1	<ul style="list-style-type: none"><li>• Demonstrates little or no focus and few supporting details which may be inconsistent or interfere with the meaning of the text</li></ul>

*Organization Scoring Guide*

<b>Points</b>	<b>Description</b>
4	<ul style="list-style-type: none"><li>• Has a logical organizational pattern with an introduction, supporting details, and conclusion as well as conveys a sense of wholeness and completeness</li></ul>
3	<ul style="list-style-type: none"><li>• Has a logical organizational pattern with an introduction, supporting details, and conclusion as well as conveys a sense of wholeness and completeness, although some lapses occur</li></ul>
2	<ul style="list-style-type: none"><li>• Shows an attempt at an organizational pattern, but does not include all parts as well as exhibits little sense of wholeness and completeness</li></ul>
1	<ul style="list-style-type: none"><li>• Has little evidence of an organizational pattern that does not have an introduction or conclusion as well as any sense of wholeness and completeness</li></ul>

*Transition Scoring Guide*

<b>Points</b>	<b>Description</b>
4	<ul style="list-style-type: none"><li>• Provides transitions which clearly serve to connect ideas</li></ul>
3	<ul style="list-style-type: none"><li>• Provides adequate transitions in an attempt to connect ideas</li></ul>
2	<ul style="list-style-type: none"><li>• Provides transitions which are weak or inconsistent</li></ul>
1	<ul style="list-style-type: none"><li>• Provides transitions which are poorly utilized, or fails to provide transitions</li></ul>



*Content, Organization, and Style Scoring Guide*

<b>Points</b>	<b>Description</b>
4	<ul style="list-style-type: none"><li>• Maintains consistent focus on topic and has selected relevant details</li><li>• Has a logical organizational pattern and conveys a sense of wholeness and completeness</li><li>• Provides transitions which clearly serve to connect ideas</li><li>• Uses language effectively by exhibiting word choices that are engaging and appropriate for intended audience and purpose</li><li>• Includes sentences, or phrases where appropriate, of varied length and structure</li><li>• Allows the reader to sense the person behind the words</li></ul>
3	<ul style="list-style-type: none"><li>• Maintains adequate focus on the topic and has adequate supporting details</li><li>• Has a logical organizational pattern and conveys a sense of wholeness and completeness, although some lapses occur</li><li>• Provides adequate transitions in an attempt to connect ideas</li><li>• Uses adequate language and appropriate word choices for intended audience and purpose</li><li>• Includes sentences, or phrases where appropriate, that are somewhat varied in length and structure</li><li>• Provides the reader with some sense of the person behind the words</li></ul>

*Content, Organization, and Style Scoring Guide (cont.)*

2	<ul style="list-style-type: none"><li>• Demonstrates an inconsistent focus and includes some supporting details, but may include extraneous or loosely related material</li><li>• Shows an attempt at an organizational pattern, but exhibits little sense of wholeness and completeness</li><li>• Provides transitions which are weak or inconsistent</li><li>• Has a limited and predictable vocabulary which may not be appropriate for the intended audience and purpose</li><li>• Shows limited variety in sentence length and structure</li><li>• Attempts somewhat to give the reader a sense of the person behind the words</li></ul>
1	<ul style="list-style-type: none"><li>• Demonstrates little or no focus and few supporting details which may be inconsistent or interfere with the meaning of the text</li><li>• Has little evidence of an organizational pattern or any sense of wholeness and completeness</li><li>• Provides transitions which are poorly utilized, or fails to provide transitions</li><li>• Has a limited or inappropriate vocabulary for the intended audience and purpose</li><li>• Has little or no variety in sentence length and structure</li><li>• Provides the reader with little sense of the person behind the words</li></ul>

<http://www.k12.wa.us/Writing/default.aspx>

## Appendix B

### List and Description of Strategies Taught to Experimental Group

- Paragraph Outline- Used to narrow down and organize a main topic and sequence the details in prewrite graphic organizers (James, Abbott, & Greenwood 2001).

#### One Paragraph Outline

Topic:  
Topic Sentence:(green)  
Supporting detail:(yellow)  
Supporting detail:(yellow)  
Supporting detail:(yellow)  
Concluding sentence:(red)

- Five Paragraphs Outline- Used to narrow down and organize main topics and sequence the details in prewrite graphic organizers (James, Abbott, & Greenwood 2001).

## Five Paragraphs Outline

- I. Introduction
  - A. General
  - B. Narrowed
  - C. Specific
- II. Topic
  - A. Supporting detail
  - B. Supporting detail
  - C. Supporting detail
  - D. Transition
- III. Topic
  - A. Supporting detail
  - B. Supporting detail
  - C. Supporting detail
  - D. Transition
- IV. Topic
  - A. Supporting detail
  - B. Supporting detail
  - C. Supporting detail
  - D. Transition
- V. Conclusion
  - A. Introduction topic
  - B. Feelings
  - C. Ending sentence

Graham and Harris, 2009

## Appendix C

### Attributes of Skilled Writers

- Have extensive knowledge about writing genres, devices, and conventions, and they are intimately familiar with the elements and characteristics associated with good writing.
- Apply a multidimensional writing approach that involves planning, composing, evaluating, and revising.
- Devote a significant amount of time to planning and developing goals that subsequently guide what they say and do prior to creating a draft.
- Frequently generate more content than they need and then eliminate superfluous ideas or information through the revision process during the initial phases of writing.
- Engage in extensive evaluation and revision processes that iteratively improve their compositions.
- Have effective transcription skills.
- Devote significant time and effort to composing.
- Have a realistic self-assessment of their writing abilities and know they need to plan and exert effort to write well.

Santangelo, Harris and Graham (2007)

